

PANEL OBSERVATIONS AND RECOMMENDATIONS

Panel Members:

Jerry De Witt – Professor of Entomology, Iowa State University and Interim Director/National Program Leader Sustainable Agriculture USDA-CSREES-SARE

John Ikerd – Professor Emeritus of Agricultural Economics, University of Missouri

Mr. Tony Kleese – Executive Director of Carolina Farm Stewardship Association

J. Paul Mueller – Professor of Crop Science and Sustainable Agriculture Coordinator, N. C. State University

Jim Starr – Research Plant Pathologist and Nematologist, Texas A&M University

Ben Stinner – Kellogg Endowed Professor of Ecological Management, Ohio State University

Charge of the Panel:

Working with the conference participants, the panel was asked to help develop a “roadmap” for Clemson sustainable agriculture, forestry and horticulture efforts for the next 5-10 years.

Examples of questions directed to the panel and conference participants:

- How do we currently assess needs and allocate resources to address key issues?
- Do we consider current trends in the SC agriculture/horticulture/forest industries and related environmental issues as we develop programs?
- What impacts do research and extension programs have on stakeholders?
- What are our current strengths and limitations with regard to facilities, expertise (personnel) and programmatic efforts in research and extension?

- What critical areas should be priorities for the program?
- What expertise is needed?
- What facilities and equipment are needed?
- How do we facilitate the vision?
- What is a realistic timeline?

Defining Sustainable Agriculture

Sustainable agriculture (SA), although it may be defined using various terms, must be capable of meeting the needs of the current generation while leaving equal or better opportunities for future generations. A sustainable agriculture must be ecologically sound, economically viable, and socially responsible.

Farming that degrades the productivity of the land is not sustainable. Thus, if farmers who can and will take care for the land cannot make a living on the land, their way of farming is not sustainable. Furthermore, if farmers who can and will take care of the land cannot meet the needs of the society in which they live, they will not be able to earn a living on the land, won't be able to care for the land, and their way of farming is not sustainable. Sustainable farming requires harmony and balance among the ecological, economic, and social dimensions of agriculture. In making decisions a sustainable farmer must ask; what will be the ecological, economic, and social consequences?

Likewise, any credible program of SA research and education must address the ecological, economic, and social implications of the alternative agricultural technologies that arise from research or the methodologies that may result from educational programs. Programs that address any one or two of the three dimensions may be useful and worthwhile, but quite simply, are not SA programs. For example, SA programs will not compensate for deficiencies of

current market forces that result in generally low prices for agricultural commodities. While production of unique, specialty commodities and niche markets might help improve profitability, without considering environmental and social dimensions, these are not necessarily sustainable systems.

Significant change, in the absence of strong driving forces, is slow and incremental. Without stronger forces than currently exist (such as immediate economic benefit) to drive change to sustainable systems, interest by most clientele groups will be limited. Likewise, significant change in research and extension programs, in the absence of strong driving forces is slow and incremental. Without stronger forces that currently exist to drive changes toward sustainable agriculture programming at Clemson, interest among research and extension faculty will be limited in both breadth and depth of commitment. The administration has the responsibility to lead. The leadership of the administration on this issue must be clear and decisive if they expect the faculty leave the security of "business as usual" and to follow them in creating a more sustainable agriculture for South Carolina and the nation.

Observations from Futures Conference

It was observed that this was the first time the entire group was together under the auspices of developing a SA program. As such, we perceive this event to be very important. The people attending seemed to be very interested in moving forward on SA activities. They were particularly interested in how a SA program could help them address pressing agriculture and natural resource issues in South Carolina. Perhaps, most importantly, we were impressed with people wanting to increase participation in interdisciplinary teams engaged in systems level research and extension.

The panel came away with the impression that an immediate opportunity and need exists for

Clemson University (CU) to create regional and nationally recognized models for SA. This potential was evident from the mix of expertise and commitment that we heard regarding issues surrounding urban development, trends in commodity agriculture and environmental quality concerns. To maintain and build momentum, it will be essential to develop a series of activities and opportunities over the next months to continue to engage the attendees and to gain the participation of additional people. A number of individuals said that with a little more encouragement/invitation, considerably more people would participate in this SA initiative.

One issue that people seemed to converge upon was the strong need for increased communication among units and especially between researchers and extension. Despite the current budget cuts, the participants felt that if more partnerships and closer collaboration were to occur, much more could be accomplished in developing SA programs.

We noted the absence of potentially significant participants in this dialog. Specifically, absent from this session were USDA-Natural Resource Conservation Service and DHEC, South Carolina State University, and rural sociologists/economists.

Opportunities to Build Sustainable Agriculture Programs at CU

Commodity-based programs have resulted in fewer and larger farms that are constantly stretched to maintain the scale to adequately support farm families with an acceptable standard of living. Furthermore, these large operations are likely to have less available time and the need to take advantage of CU programs/services. Access to niche markets and valued added approaches to agriculture merit attention and resources to develop new possibilities for farmers. Food production based on local, branded products and organic

production systems represent innovative approaches that have potential to increase net farm returns, enhance the natural resource base and improve the quality of life for South Carolina farmers. Any efforts (marketing, networking, alliance building) to reduce the intermediaries between farmers and consumers merit the attention and support of CU research and extension programs, especially if these programs take into consideration environmental and social impacts.

We feel that CU has a unique opportunity to become known as a regional and national SA leader by combining and linking the attributes of successful existing programs resulting in synergies for a SA emphasis area. Programs such as Forestry and Natural Resources, Agroecology and others are capable of providing experiences and the interdisciplinary base support to address the key issues and challenges generated by an increasing urban/agricultural/natural resource interface. In this regard, SA should receive the same degree of emphasis and university-wide support as the high visibility, “cutting-edge” programs such as biotechnology and genomics.

Role of the SA Program Leader

Within the preferred institutional environment, the SA Program Leader will be the “keeper of the purpose and principles” of the program for a group of committed research and extension faculty who are dedicated to the mission of developing a more sustainable agriculture for the State of South Carolina. The leader will bring the program faculty together, along with representatives of their constituency, to define the purpose of the SA program in the state and to develop a set of guiding principles for the program. The principles, if followed, should be sufficient to ensure that the purpose of the program will be fulfilled, but should be no more than is necessary.

With a shared purpose and commitment of a common set of principles, the faculty will be free and should be encouraged to organize, and reorganize, as they deem necessary to carry out the work of the program in a dynamic agricultural environment. The SA Program Leader will do those things necessary to facilitate and support the work of the faculty, but will have primary responsibility for keeping the purpose and principles of the program in the consciousness of all those associated with the program at all times. The purpose and principles will be amended only when deemed necessary by a consensus of the faculty and constituents of the program.

Under less desirable institutional conditions, the SA Program Leader, in collaboration with constituent groups, may have to articulate an initial purpose and set of principles for the program and then recruit faculty members to collaborate on specific sustainable program initiatives, utilizing grants and other special funding sources to support the program.

Regardless of institutional support, beyond legitimization of the program, the SA program leader in collaboration with farmers, consumers, and others committed to the concepts of sustainability, must define a purpose and set of principles for the program. The SA Program Leader should reach out to departments by making personal appeals to encourage participation in SA projects and programs. The Extension Director may want to combine the Extension IPM and SA programs to create synergistic relationships and to leverage IPM resources for joint programs with SA. The SA Program Leader then must maintain communications and collaborative working relationships with these constituent groups to build a program that meets their needs and to enlist their continuing support for the program.

Institute for Sustainable Agriculture (ISA)

An institute should be developed that causes interest, commitment, and action to resolve pressing and long-range issues challenging the people, economy and communities of rural South Carolina.

Clemson University should, as soon as possible, position itself as the leading new model for interdisciplinary and partnership programming for SA for the Land Grant systems in the Southeast. A new infrastructure that works cooperatively within the current academic community should be nurtured by the Administration in both research and extension that allows the development and implementation of an overarching institute with action and support by flexible issue teams composed of internal and external players.

Action-oriented issue teams (IT) should be formed composed of on and off campus faculty and staff and external partners. These teams should be issue-focused, short-term in nature, and funded for applied research and extension (Administration should provide funding for this program).

Faculty should be given the opportunity to fully transfer or enroll in the institute as ISA Faculty (ISAF) for a term period (2-5 years) and function in a team alliance with all rights and privileges retained in the home Department. Performance appraisal for promotion and tenure for the appointment period, however, should be a function of a special promotion and tenure committee of five (5) Department Heads/Chairs and senior faculty appointed by the Dean and Directors. Faculty, staff, and partners may also have the opportunity to cooperate on individual projects and programs related to SA and enroll as Institute Associates (IA). Such individuals are eligible to compete for funding and receive the same rights and privileges of participation as the ISAF but report to their home department.

Joint leadership of two co-directors, a department Chair/head and a faculty member, will direct the ISA for a three-year term renewable upon annual review by the Dean and Director.

An advisory board composed of 10-12 academic, private sector, NGO, consumers, field extension faculty and other interested parties shall be appointed by the Dean and Director to provide program direction, guidance and review.

The Dean, in consultation with other key administrators, should: a) form 3-5 issue teams and b) develop the framework for the implementation of the Institute for Sustainable Agriculture.

NGO Interaction

An important component of developing a sustainable agriculture program is to collaborate with the NGO community. Specifically, the Carolina Farm Stewardship Association (CFSA) has over 20 years of experience in organic and sustainable agriculture as well as a solid track record of working with government and educational institutions. CFSA has a network of over 600 members, many of whom are farmers, who can provide expertise on production and marketing as well as serve on advisory boards. The organization currently organizes an annual sustainable agriculture conference, which is in South Carolina every other year, as well as an annual organic grower's school in the Columbia area and is willing to collaborate with CU to enhance current programs and develop new programs. Other NGOs that contribute significant resources to the sustainable and organic community are: American Livestock Breeds Conservancy, Rural Advancement Foundation International, Organic Farming Research Foundation, and Organic Trade Association. The Sustainable Agriculture Research and Education program (SARE), and Appropriate Technology Transfer for Rural

Areas (ATTRA) represent additional key collaborative resources.

Partnerships

A SA program must be broadly based through participation by a variety of interests both on and off campus. The table for discussion must be expanded to include both the conventionally based players, so much a rich part of the Land Grant heritage, but also include the new, alternative partners and perspectives of emerging interests and approaches. Participation must be sincere, welcomed, balanced, and honest to lead to synergistic outcomes. Partners and interests to be invited to the sustainable agriculture table now, not later, are rural sociologists, economists, community development interests, non-profits, Natural Resources Conservation Service, Resource Conservation & Development Districts, SC DHEC, Agricultural Research Service (USDA-ARS), Environmental Agency (EPA), Strom Thurmond Institute, The Institute for Environmental Toxicology, South Carolina State University, and Francis Marion College.

Teaching/students

There were undergraduate and graduate students in attendance at the Conference, and it was pointed out that there is substantial and increasing interest by students in curriculum, research and outreach emphasizing SA. Based on these observations, the panel strongly recommends that a major component of a SA conference program should include undergraduate and graduate education and research. More specifically, we suggest that curriculum should be developed that includes new courses on sustainability and adding modules to existing courses. Also, we suggest that new research opportunities in SA be created for undergraduate internships and graduate programs. These could take the form-dedicated sites at the CU campuses and on-farm/forested locations.

Role of Agroecology Program.

The panel was very encouraged with the activities of the Agroecology Program and its potential to play a key and expanded role in the development of a SA program within the CU system and partners. We observed numerous opportunities for the Agroecology Program to increase collaboration with USDA-ARS and researchers and extension working in the area of forestry, natural resources and wildlife management. In particular, we think that Agroecology Program could expand research to emphasize interactions between agricultural production areas and adjacent forested lands in relation to water quality and wildlife issues. The panel viewed the student internship effort as very positive, and would encourage similar activity through CU.

Points for Further Discussion and Consideration

A number of issues and ideas were brought to our attention that may be worthy of more thoughtful discussion and dialogue at Clemson with a variety of partners and participants.

Re-orient value-added agriculture, identity-preserved (IP), organic, and international standards organization (ISO) programming to address the issues of SA. Look to engineers and manufacturing business interests to provide assistance.

Bring composting technology of animal mortalities and waste streams for nutrients to the SA program to interest consumers and livestock industry.

Determine what need assessments are required and which audiences to assess for program development and delivery direction. It will be necessary to identify clientele groups that are especially interested in adopting the concepts and tactics of sustainable agriculture. It will be important to show success in limited, defined areas to generate broader participation and to

develop a reputation for success, not just activity and interest.

Establish a funded seminar program to increase exposure and participation in SA. This can also serve as a mechanism for identification of specific opportunities for research, extension and teaching activities with the highest potential for success.

Determine how to shift to this new program in an era of declining and tightening budgets, excess program demand, and reluctance to change. Begin with identification of activities that do not require reallocation of existing or new resources. To the extent possible, new resources should be made available on a competitive basis, with specific guidelines that require team approaches. Every project need not be a complete package but must enable adoption of a significant component of sustainability to an existing traditional system or an emerging production system. Longer term funding is most desirable if possible with documented achievement of important milestones for continuation.

Identify current faculty with strong interests and whose programs and interest have relevance to SA programs. Consider appointing a “Professor for Sustainable Agriculture” in each department and unit for enhanced program communication and coordination. Consider a staffing pattern in

3-5 years of field extension staff of 80% of staff on permanent appointment and 20% of staff on short-term appointments related to emerging sustainable issues for agriculture, natural resources, forestry, and communities.

Develop an attractive and visible plan to allow faculty and staff to personally commit to change and move to a SA program. End a conventional program activity to allow more time and effort to go towards work in SA.

Designate a research and demonstration farm for organic research and education. Certify the farm. Appoint a team of three (3) County Extension Agents to direct the on-farm research and extension program efforts. Fund the farm through research and extension.

Develop and fund an annual competitive award with monetary recognition for outstanding extension/research in SA.

Work to facilitate collaboration for the implementation of regional sustainable agriculture program areas. Reallocate resources and create a climate for an interdisciplinary institute structure and evaluation system for university-wide SA efforts.

When hiring new faculty, seek persons committed to the philosophy of sustainability.